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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,732	02/27/2004	Lee D. Saathoff	EI-7624	6113

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EXAMINER
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GOLOBOY, JAMES C

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/788,732

Applicant(s)

SAATHOFF ET AL.

Examiner

James Goloboy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/9/04, 2/3/06, 5/30/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 20 refers to a method of increasing the friction durability of a transmission fluid, but only recites a step of adding to a base oil an additive package that does not contain an active friction modifier. It is the examiner's position that "friction durability" is only meaningful if the composition initially contains an anti-friction additive, which has not been recited in Claim 20.

If applicant argues that Claim 20 as presently stated is properly enabled, the additional rejections in paragraphs 16 and 17 below are applicable.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 20 refers to a method of improving the friction durability of a transmission fluid, but the only step recited in the claim merely provides a method of preparing the transmission fluid. It is the examiner's recommendation that lines 2-3 of Claim 20 be amended to read "adding to said transmission fluid an additive composition comprising:"

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 6-7, 9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Lowe (U.S. Pat. No. 4,177,153).

Lowe, in the abstract, discloses a lubricant composition comprising a tertiary amine. In column 6 line 2 Lowe discloses that the composition may further comprise an ashless dispersant, including a succinimide, as recited in Claim 1(b) and 12. In column 4 lines 9-17 Lowe discloses that the tertiary amines have three alkyl R substituents which may be saturated and straight chain (aliphatic). Lowe further discloses that at least one of the R groups is preferably a C<sub>11</sub>-C<sub>25</sub> alkyl, falling within the ranges recited in Claims 1, 6, and 7 (as the number of carbons must be an integer, 11 clearly meets the

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limitation of "about 12" in Claim 7), with the remaining R groups C<sub>1</sub>-C<sub>5</sub> alkyls, anticipating the range recited for the shorter-chain group of Claim 1 (5 meets the limitation of "about 4"). Although Lowe only discloses that "at least one" of the R groups is a C<sub>11</sub>-C<sub>25</sub> alkyl, and not specifically two, case law holds that if one of ordinary skill in the art is able to "at once envisage" the specific compound within the generic chemical formula, the compound is anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962), also MPEP §2131.02. As the disclosure of Lowe allows for only three possibilities (one, two, or three long-chain alkyl R groups), the Claim is clearly anticipated.

In column 5 lines 10-35, Lowe discloses base oils suitable for the lubricant composition, including mineral oils (naphthenic base, paraffin base), as recited in Claims 2 and 3, synthetic oils, as recited in Claim 3, esters (lines 20-32), as recited in Claim 4, and oils derived from a Fischer-Tropsch process ("oils derived from coal products", lines 13-14), as recited in Claim 4.

In columns 6-7 (Table I), Lowe discloses lubricant compositions comprising 0.1% by weight of the tertiary amine, falling within the range recited in Claim 9. From column 5 line 43 through column 6 line 14, Lowe discloses additional additives for the lubricant composition, including a corrosion (rust) inhibitor, an antifoam agent, and an antiwear agent, as recited in Claim 11. In column 3 line 13 Lowe further discloses that an antioxidant, as recited in Claim 11, may also be used in the composition.

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7. Claims 1-3 and 5-9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Izumi (U.S. Pat. No. 3,720,615).

Izumi, in the abstract, discloses a lubricant composition comprising a hydrocarbon oil with an aliphatic tertiary amine, and in column 3 lines 21-24 discloses that the composition may also comprise an ashless dispersant, including alkenyl succinimides, which are hydrocarbyl succinimides as recited in Claim 12. In column 2 line 41 Izumi discloses that the tertiary amine may be methyldioctadecyl amine, meeting the structural limitations of Claim 1, 6, and 7. Izumi discloses in column 3 lines 4-7 that the hydrocarbon base oil may be a mineral oil (500 neutral oil), as recited in Claims 2-3, and in column 3 line 13 discloses that the viscosity of a suitable base oil at approximately 100°C (210°F) is 4.2 CSt, falling within the ranges recited in Claims 5 and 8, and discloses a concentration of 0.2% for the amine in the oil, meeting Claim 8. Izumi also teaches in column 3 lines 31-40 that the composition may comprise an antioxidant and a corrosion inhibitor, as recited in Claim 11.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe.

The discussion of Lowe in paragraph 6 above is incorporated here by reference. Lowe discloses the fluid of Claim 1, including a tertiary amine component, but does not disclose a concentration of 0.5 to 1.5% by weight of the amine in the fluid, as required by Claim 10.

Lowe, in column 2 lines 67-68, discloses that the tertiary amine is present in the fluid in the amount of 0.001 to 5% by weight, encompassing the range recited in Claim 10. Case law holds that "[ A ] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a *prima facie* case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). Therefore, Claim 10 is rendered obvious.

11. Claims 13, 15-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Ohtani (U.S. Pat. No. 5,344,579).

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The discussion of Lowe in paragraph 6 above is incorporated here by reference. Lowe discloses the fluid of Claim 1, but only discloses its use in an engine, not a transmission.

Ohtani, in column 2 lines 38-43, discloses a lubricant composition similar to that of Lowe comprising a lubricating oil, and two components a) and b). In column 3 lines 19-38 Ohtani discloses that component b) is a tertiary amine. Ohtani also teaches in column 3 lines 44-46 that the composition preferably includes an ashless dispersant. In column 2 lines 8-11 Ohtani teaches that the composition is used in an automatic transmission, as in Claims 15 and 18, and that the automatic transmission includes a shifting clutch. As it is well known in the art that automatic transmissions also include a torque converter or starting clutch, the use of the composition of Lowe in a transmission as described by Ohtani meets Claims 13 and 16.

It would have been obvious to one of ordinary skill in the art to use the lubricant composition of Lowe in an automatic transmission, as taught by Ohtani, in order to take advantage of the anti-oxidation properties described in the abstract of Lowe.

12. Claims 14, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Watts (U.S. Pat. No. 6,225,266).

The discussion of Lowe in paragraph 6 above is incorporated here by reference. Lowe discloses the fluid of Claim 1, but only discloses its use in an engine, not a transmission.



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Watts discloses a lubricant composition similar to that of Lowe, comprising a lubricating oil (columns 3-5), an ashless dispersant (columns 5-8), and a tertiary amine (column 13, structure VI). In column 1 lines 5-7 Watts teaches that the composition is used in a continuously variable transmission (CVT), as recited in Claims 14 and 17, and in column 1 lines 14-16 teaches that the CVT is in a vehicle, as recited in Claim 19.

It would have been obvious to one of ordinary skill in the art to use the lubricant of Lowe in a continuously variable transmission inside a vehicle, as taught by Watts, in order to take advantage of the anti-oxidation properties described in the abstract of Lowe.

13. Claims 20-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Papay (U.S. Pat. No. 4,795,583) and Field (U.S. Pat. No. 6,844,301).

The discussion of Lowe in paragraph 6 above is incorporated here by reference.

Lowe discloses a composition comprising the product of the steps of Claim 20, and including the limitations of Claims 28-31, but does not provide a method for improving friction durability comprising those steps.

Papay, in the reference's Claim 1, discloses a transmission fluid composition comprising a base oil, a tertiary alkyl amine, and a tertiary amine friction modifier. In columns 1-2, Papay teaches that under the oxidative and thermal stress of normal service conditions, the alkyl amine gains friction reducing properties at the same time the friction modifier loses its properties, thus increasing the friction durability of the

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composition. Evidence is given in Table I, where Papay shows that the compositions containing the alkyl amine exhibit lower static and dynamic friction, than control compositions, as recited in Claims 21 and 34. As it is well known in the art that an increase in friction durability leads to improved anti-shudder and anti-rattle durability, the method of Papay addresses Claims 33 and 35 as well. In column 2 lines 16-25 Papay speculates that the transformation of the alkyl amine into a friction-reducing species arises from an oxidative mechanism. The only difference between the tertiary alkyl amine of Papay and the tertiary alkyl amine of Lowe is that the amine of Papay contains two short chains and one long chain, while the amine of Lowe contains one short chain and two long chains.

Field, in column 3 lines 61-67 (unnumbered figure) and column 4 lines 1-12, discloses a tertiary amine friction modifier that contains two long chains and one short chain, and contains oxygen atoms, suggesting that similar compounds may be formed by the oxidation of a tertiary alkyl amine as in the method of Papay discussed above, and specifically the alkyl amine of Lowe, which also contain two long chains and one short chain.

In summary, Papay teaches that the friction durability of a transmission fluid may be improved by the addition of a tertiary alkyl amine that gains friction-reducing characteristics when subjected to oxidative and thermal stress, and Lowe teaches that the alkyl amines disclosed by Lowe and matching the product of the steps recited in Claim 20 are useful amines in the method of Papay. Claims 20 and 32 are therefore rendered obvious.

Additionally, Field discloses in column 3 lines 24-37 that the friction modifiers of the reference are effective in a composition comprising a natural or synthetic base oil, as recited in Claim 22, a mineral oil as in Claim 23, or a polyalphaolefin or ester basestock as recited in Claim 24. In column 3 lines 52-53 Field teaches that the base oil preferably has a viscosity of 3.5 to 9 CSt at 100° C, within the range recited in Claim 25.

14. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Papay and Field as applied to claim 20 above, and further in view of Ohtani.

The discussions of Lowe in view of Ohtani in paragraph 11 above and Lowe in view of Papay and Field in paragraph 13 above are incorporated here by reference. Ohtani teaches that a fluid such as the one taught by the combination of Lowe, Papay, and Field may be used in the type of transmission recited in Claim 36.

15. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lowe in view of Papay and Field as applied to claim 20 above, and further in view of Watts.

The discussions of Lowe in view of Watts in paragraph 12 above and Lowe in view of Papay and Field in paragraph 13 above are incorporated here by reference. Watts teaches that a fluid such as the one taught by the combination of Lowe, Papay, and Field may be used in the continuously variable transmission recited in Claim 37.

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16. Claims 20-23 and 25-28, and 30-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Izumi.

The discussion of Izumi in paragraph 7 above is incorporated here by reference. The combination of a base oil, ashless dispersant, and tertiary amine disclosed by Izumi inherently increases the friction durability of a transmission fluid and meets all the limitations of Claims 20-23 and 25-25.

17. Claims 20-24, 26-28, and 30-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Lowe.

The discussion of Lowe in paragraph 6 above is incorporated here by reference. The combination of a base oil, ashless dispersant, and tertiary amine disclosed by Lowe inherently increases the friction durability of a transmission fluid and meets all the limitations of Claims 20-23 and 25-25.

### ***Conclusion***

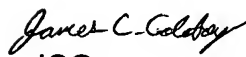
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Bloch (U.S. Pat. No. 5,597,506) discloses a method of increasing the friction durability of a lubricant composition through the addition of a tertiary amine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is 571-272-2476. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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